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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,963	03/30/2001	Alexander Flaig	EVOY001/00US	3906
23494	7590	06/28/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			TSE, YOUNG TOI	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/820,963

**Applicant(s)**

FLAIG ET AL.

**Examiner**

YOUNG T. TSE

**Art Unit**

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,8-12,25,26 and 35-39 is/are allowed.
- 6) ☒ Claim(s) 5-7,19,29,31-34,43-45,53 and 54 is/are rejected.
- 7) ☒ Claim(s) 2-4,13-18,20-24,27,28,30,40-42 and 46-52 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 041201,012004,082604.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because the reference signs "26" and "327" should be changed to " 26' " and " 327' " as mentioned in paragraph [0076] of the specification . Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: in paragraph [0027], line 9, "receivers 122" should be "fingers 122"; in paragraph [0037], line 6, "128" appears to read "228"; in paragraph [0039], line 8, "Decimator" should be "Decimators"; in paragraph [0044], line 13, "40" (both occurrences) appears to read "226"; in paragraph [0061], "114", "summer 44", and "230" appear to read "414", "estimator 36", and "330", also see paragraph [0074]; in paragraph [0063], lines 3, 4 and 7, "114" and "16" appear to be "441" and "15", also see paragraphs [0067], [0068], and [0069]; in paragraph [0071], line 2, "generator" should be "generator 326", line 5, "32" appears to read "36", and lines 10 and 11, "230" and "322" appear to read "330". Appropriate correction is required.

### ***Claim Objections***

3. Claims 2-3, 13-24, 27-31, and 40-52 are objected to because of the following informalities:

In claim 2, lines 3 and 6, "regenerated" should be "regeneration".

In claim 3, lines 9 and 11, "regeneration" should be "regenerated".

In claim 13, line 12, "regenerated" should be "regeneration", wherein claims 14-24 all depend upon claim 13.

In claim 27:

Line 2, "regenerator-factor" should be "regeneration-factor";

Line 3, "regenerator-factor signal" should be "regeneration-factor";

Line 6, "first user based on the regeneration-factor signal" should be "the first user based on the regeneration factor";

Line 8, "first regenerator-factor" appear to read "second regeneration-factor";

Line 9, "regenerator-factor signal" should be "regeneration-factor";

Lines 12-13, "second user based on the regeneration-factor signal" should be "the second user based on the regeneration factor".

Wherein claims 30 and 31 depend upon claim 27.

In claim 28, line 1, "26" should be "27", wherein claim 29 depends upon claim 28.

In claim 40, lines 10-11, "regenerator-factor processors" should be "regeneration-factor generators" and line 12, ""regenerator-factor" and "processors" should be "regeneration-factor" and "generators", wherein claims 41-42 and 50 depend upon claim 40.

In claims 43-49, "processors" should be "generators".

In claim 51, line 4, "signal" should be "signal to produce a regeneration-factor signal" and lines 9 and 10, "regenerator-factor" should be "regeneration-factor".

In claim 52, line 2 and line 4, "the first user" and "the second user" should be "a first user" and "a second user".

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 7, 19, 31, 34, 45, and 53-54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

According to the present invention, the claimed subject of the first user and the second user or each user from the plurality of users is performed substantially in series as recited in claims 7, 19, 34, and 45 seems not describe in the specification or show in the disclosure of the drawings.

Further, the specification appears fail to discuss the estimation of a phase and an amplitude of each multipath component associated with a received signal based on a pilot signal as recited in claim 31 and also a low-pass filter as recited in claims 53-54.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 5-7, 28-29, 32-33, and 43-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 1 of claims 5-7, the phrase "the determining" is indefinite since the precedent claim 1 includes two determining steps.

In claim 28, lines 2-3, "the first modified-signal generator" and "the second modified-signal generator" both lack antecedent basis, wherein claim 29 depends upon claim 28.

Claims 32-33 and 43 are vague and indefinite because it is unclear what are repeatedly in an iterative manner.

The claimed subject matter of claims 44 and 45 are not understood.

***Allowable Subject Matter***

8. Claims 1, 4, 8-12, 25-26, and 35-39 are allowed.
9. Claims 2-3, 13-18, 20-24, 27, 30, 40-42, and 46-52 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.
10. Claims 5-6, 28-29, 32-33, and 43-44 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
11. Claims 7, 19, 31, 34, 45, and 53-54 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action.
12. The following is a statement of reasons for the indication of allowable subject matter: References Yellin, Shimazu et al., Wang et al., Madkour et al., and Dabak et al. are related Rake receiver including a plurality of fingers capable of receiving information containing Walsh coding for a plurality of channels and canceling interference from the received information. Schramm et al. relates to a method and apparatus for

demodulating a received communication signal employing coherent demodulation and decision-directed channel estimation comprising a channel estimation filter having a cutoff frequency that is approximately equal to the maximum Doppler frequency.

However, the prior art fails to show or suggest a method or apparatus for determining a regeneration factor associated with a plurality of users or a first user and a second user based a received signal, a frequency range associated with the first user having at least a portion overlapping with at least a portion of a frequency range associated With the second user, and a time range associated with the first user having at least a portion overlapping with at least a portion of a time range associated with the second user. Or a method of determining a cutoff frequency based on an expected Doppler frequency associated with the first user; and estimating a phase and an amplitude of each multipath component associated with the received signal based on a pilot signal and a low-pass filter having the cutoff frequency.

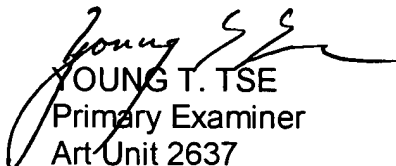
Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday and Wednesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

However, starting July 15, 2005, the Central FAX Number will change to (571) 273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
YOUNG T. TSE  
Primary Examiner  
Art Unit 2637